Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC. 20554

In the Matter of		
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	)	
Review of Part 15 and	)	**ET Docket 01-278**
other Parts of the	)	**RM-9375**
Commission's Rules	)	**RM-10051**
	)	
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To: The Commission

COMMENTS of Nickolaus E. Leggett
N3NL Amateur Radio Operator

The following are comments from Nickolaus E. Leggett, an amateur extra class radio operator and a certified electronics technician. These comments are directed primarily at the radio astronomy restricted band of 13.36 – 13.41 MHz and the operation of radio frequency identification (RFID) tags in the 425 – 435 MHz frequency range.

Radio Astronomy in the 13.36 – 13.41 MHz band

This restricted band was established for the Radio Astronomy Service by the World Administrative Radio Conference in 1979 (WARC-79). This band is useful for planetary radio astronomy such as the decameter radio emissions from ion activity in the vicinity of the planet Jupiter. These frequencies are also used for solar radio astronomy studies. The restricted band removes terrestrial interference that would greatly inhibit such studies.

The FCC Notice of Proposed Rule Making and Order (NPRM&O) states that only one radio astronomy location (in Florida) uses this allocation. I do not have data on this suggested fact. However, it is worth noting that science consists of an ebb and flow of

research interests that change over time. Planetary radio astronomy may be in a quiet professional period at this time. However, it is anticipated that interest in 13.36 – 13.41 MHz observations will increase as a complimentary support for the observations made by interplanetary space probes at the planet Jupiter itself. I know from direct experience that there is a long standing interest in planetary radio astronomy in this frequency range. Indeed, when I was an undergraduate at Wesleyan University (Middletown, Ct.) back in the 1960s, the Astronomy Department was conducting Jupiter observations in the high frequency bands.

Also, the statement that only one radio astronomy observatory is using this allocation does not include **amateur** radio astronomers. Many amateur radio astronomers conduct this type of observation because receivers designed for the amateur radio service can be readily used with easy-to-build antenna arrays. If the allocation is filled with Part 15 devices, the amateur radio astronomy observations will be blocked in most regions of the country.

An important fact to remember is that if this frequency band is removed from the list of restricted bands, it will be lost to radio astronomy and recovering it would be next to impossible because the frequency would be occupied by large numbers of Part 15 devices.

At the very least, the Commission should consult on the record with the National Academy of Sciences – Committee on Radio Frequencies (CORF) on the subject of retaining this frequency allocation as a restricted band reserved for radio astronomy research.

In addition, the Commission should prohibit Part 15 devices from operating in the radio astronomy (and amateur radio) allocations above 38.6 GHz. We must keep these windows open for the important discoveries they can yield. These discoveries may even include the detection of artificial signals from beyond the solar system, an event of enormous economic and social importance.

Operation of RFID Tags in the 425 – 435 MHz Band

The Commission has proposed higher power and longer transmission times for RFID devices in the 425 – 435 MHz frequency range. One of the justifications for this stronger radio frequency presence is the claim by a petitioner that the RFID systems would typically operate only in commercial areas where there are few amateur radio operators to be interfered with. This justification understates the potential applicability of the proposed RFID technology.

The RFID technology can undoubtedly be developed so that it can be used to track individual packages as well as large shipping containers. The tags can be engineered so that they will fit into flat pack "labels" that are glued to individual packages. Interrogating systems at the doors of each transport vehicle would track the entry or departure of each package removing the need for any manual bar code scanning of individual packages. This development of the RFID technology would be highly appealing to package shippers such as FedEx and UPS. The use of the technology would become widespread including operations in residential communities throughout America. In addition, the same basic technology could be upgraded into an automobile security product which would track the movements and status of customers' automobiles. This could include automatic alerting for unauthorized departures from parking garages or screening arrivals at a residential garage. Similarly, this type of technology can be used as a house key or for tracking toddlers or children in a residential property. Clearly over time this technology would be used throughout the country with resulting interference to the amateur radio service.

This interference would inhibit amateur radio weak signal experimentation as well as amateur radio networks operated in support of homeland defense and other public service

communications. The choice of frequencies for this high-power RFID system is not appropriate and should be changed.

Instruction Manuals and the Internet

Providing product information manuals and user guides on the Internet alone is not acceptable. Large numbers of U.S. households do not have computers or Internet connections. If the manuals are only on the Internet, then these users are excluded from obtaining information about using their products. If safety information is limited to "publication" on the Internet, then these excluded customers may have the basis to bring civil suits against the manufacturers for hiding this information. Certainly, allowing manufacturers to provide user guides and information manuals only over the Internet increases the digital divide between those who have Internet access and those who do not. This issue should be tabled for 10 years to see if universal Internet service develops.

Conclusion

The Commission must make sure that its enthusiasm for the potential of Part 15 devices does not lead to significant interference penalties for incumbent radio users such as radio astronomy or amateur radio communication. In many ways, these two radio services are more important than the convenience of Part 15 devices. These two services should be protected for the public services that they provide to all mankind.

Respectfully submitted,

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Copies of these comments have been sent to the petitioners by First Class USPS Mail.

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